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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 26 OCT 2004

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Applicant's or agent's file reference PCT-027	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/KR2002/001832</b>	International filing date (day/month/year) <b>30 SEPTEMBER 2002 (30.09.2002)</b>	Priority date (day/month/year) <b>11 JULY 2002 (11.07.2002)</b>
International Patent Classification (IPC) or national classification and IPC  <b>IPC7 C08L 69/00, C08K 5/523, C08K 5/49</b>		
Applicant  <b>CHEIL INDUSTRIES INC. et al</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of        sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☒ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application


Date of submission of the demand

14 JANUARY 2004 (14.01.2004)

Date of completion of this report

14 OCTOBER 2004 (14.10.2004)

Name and mailing address of the IPEA/KR

 Korean Intellectual Property Office  
920 Dunsan-dong, Seo-gu, Daejeon 302-701,  
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

SOHN, Chang Ho

Telephone No. 82-42-481-5538



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR2002/001832

## I. Basis of the report

### 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☐ the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the claims:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement) under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language English which is

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☒ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheet \_\_\_\_\_

### 5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed." and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION

International application No.

PCT/KR2002/001832

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims 1-4	YES
	Claims none	NO
Inventive step (IS)	Claims 1-4	YES
	Claims none	NO
Industrial applicability (IA)	Claims 1-4	YES
	Claims none	NO

**2. Citations and explanations (Rule 70.7)**

The following documents identified in the International Search Report have been considered for this report:

D1: US 4391935 A (General Electric Company) 05 July 1983

D2: EP 1069156 A (Cheil Industries Inc.) 17 January 2001

Claims 1-4 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest any of the embodiments as specifically set forth in the claims.

The invention described in claim 1 relates to a flame retardant thermoplastic resin composition with good flame retardancy, heat resistance and mechanical strength. Document D1 discloses an improved flame retardant polycarbonate composition of an aromatic carbonate polymer. Document D2 discloses a flame retardant thermoplastic molding composition which comprises a thermoplastic polycarbonate, a styrene graft polymer, a phosphate compound and a fluorinated polyolefin etc. However, none of these cited documents describe or fairly suggest a flame retardant thermoplastic resin composition which includes a cyclic oligomeric phosphazene compound represented by a formula(II) and an oligomeric phosphoric acid ester compound represented by a formula (IV), as described in claim 1.

Therefore, the subject matter of claim 1 is considered to be novel and to involve an inventive step; consequently, the subject matter of dependent claims 2-4 is also novel and inventive.

Claims 1-4 meet the criteria of PCT Article 33(4), IA, because the invention is industrially applicable.

# INTERNATIONAL PRELIMINARY EXAMINATION

International application No.

PCT/KR2002/001832

## VI. Certain documents cited

### 1. Certain published documents (Rule 70.10)

<u>Application No. Patent No.</u>	<u>Publication date (day/month/year)</u>	<u>Filing date (day/month/year)</u>	<u>Priority date (valid claim) (day/month/year)</u>
E, Y KR 2002-83711 A	04 November 2002	30 April 2001	none

KR 2002-83711 A discloses a fire retardant, thermoplastic resin composition based on polycarbonate, which relates to the features of claims 1-4.

### 2. Non-written disclosures (Rule 70.9)

<u>Kind of non-written disclosure</u>	<u>Date of non-written disclosure (day/month/year)</u>	<u>Date of written disclosure referring to non-written disclosure (day/month/year)</u>